REMARKS

General:

Claims 43-62 were pending in the application before this amendment.

Claim 43 is amended for consistency with claim 48 to specify that the "medium" in the pipe is a flowing fluid. Claims 54, 57, and 60 are amended to recite the feature of previous claims 55, 59, and 61 that the medium being treated is a fluid flowing in a pipe, with consequential amendments to claims 59 and 61.

Claims 46, 47, and 55 are canceled, with a consequential change in the dependency of claim 56.

Claims 63-65 are new. Claims 63-65 specify that the two coils or pairs of coils are oblique to one another. Support for this feature is found at least in FIGS. 1 and 6-8 and their accompanying description. Textual support for the word "oblique" is found at least in claim 60 and in the parts of the original disclosure that supported claim 60.

Claims 43-45, 48-54, and 56-65 are pending in the application after this amendment.

No new matter has been added by this amendment.

Telephone interview

Applicant thanks the Examiner for the courtesy extended to Applicant's representative (Henry Blanco White, reg. no. 47,350) at a telephone interview on May 30, 2008 and a follow-up telephone interview on June 2, 2008.

The examiner explained to Applicant's representative that the Office was having difficulty in classifying Applicant's claims for search purposes. The Office's concern to ensure that invalid patents are not issued is commendable, but ultimately 35 U.S.C. § 102 and 103 require a patent to be granted unless the Office can show that the invention claimed lacks novelty or is obvious. If the Office cannot find invalidating prior art, the Office must give the applicant the benefit of the doubt, issue the patent, and rely on the Courts to correct any error at a later date.

In the present case, it is undisputed that methods of treating a wide variety of materials with magnetic fields have been known for many years. Applicant's inventive concept is to improve the treatment process by using a magnetic field varying with time in a specific way. Applicant's methods can be applied to advantage wherever the previous methods of magnetic treatment were used, and as most broadly defined are not restricted to treating any particular medium. (In the interests of simplicity and speedy prosecution, the claims presented in this amendment are directed to the treatment of a liquid flowing in a pipe, but Applicant does not believe that limitation is necessary for patentability.)

It is unfortunate that, because the U.S. Patent Classification is primarily structured by the uses of treatment processes, and not by the processes themselves, applicant's invention cuts across several classes. (It is particularly unfortunate that class 204, subclass 557, which would appear to be the logical place to classify such processes, is used only as a catch-all for magnetic treatment processes not classifiable elsewhere, instead of being used as a secondary class for magnetic treatment processes generally.) However, the construction of the U.S. Patent Classification is not within Applicant's control, and Applicant should not be penalized for its limitations. Therefore, absent properly anticipating prior art, and in eight years and eleven office actions no such prior art has been cited, it is respectfully requested that the rejection of Applicant's claims be withdrawn, and the application allowed without further delay.

35 U.S.C. § 102:

Claims 43-48, 50, 54-62 were rejected as anticipated by U.S. Patent no. 4,506,223 (Bottomley). The rejection is traversed. Bottomley does not disclose or suggest, and is not alleged to disclose or suggest, all the features of any of the rejected claims.

Bottomley describes an essentially conventional NMR machine, with a DC B_0 field coil, three DC gradient (G_x, G_y, and G_z) coils, perpendicular to each other and with the G_z gradient field parallel to the B_0 field, and an RF coil typically parallel to the G_x gradient coil.

There is no suggestion that Bottomley's device would, or even could, produce the specific rapidly-varying resultant fields recited in the present claims.

As far as can be understood, the Office's position relies entirely on interpreting the statement that the "coil sets for producing gradient G_y are rotated 90° around the ... axis ... of the sample chamber relative to the coil that produces gradient G_x" (which the Office consistently misrepresents as "one of the pairs [of coils 300 and 302] rotates 90 degrees relative to the other pair:" as teaching not merely an act of rotating the G_y coil, but an act of rotating the coil while the apparatus is in use. It has already been pointed out that is not a correct reading of Bottomley's English. It has also already been pointed out that Bottomley is using the Cartesian coordinate system, see col. 4, line 21. That necessarily requires that the x and y axes, and therefore the G_x and G_y coils, are in a fixed relationship at 90° to one another. If they were not fixed at 90°, they could not be sub-x and sub-y in Cartesian coordinates. There are no rotating coils. The Office is therefore respectfully requested either to withdraw this rejection in its entirety, together with the obviousness rejections that depend from it.

Bottomley does not disclose or suggest, and the Office action does not even appear to allege that Bottomley discloses or suggests, the specific variations in the magnetic fields recited in independent claims 43, 54, 57, and 60, and those claims are therefore deemed to be not only novel but also non-obvious over Bottomley.

Claims 44-45, 48, 50, 56, 58-59, and 61-62 are dependent from claims 43, 54, 57, and 60, and without prejudice to their individual merits are deemed to be novel and non-obvious over Bottomley for at least the same reasons as their respective base claims.

In addition, it is noted that Applicant's previous arguments in support of the separate patentability of claims **44, 45, 48, 56, 58, 59, and 62** stand unanswered. Bottomley does not disclose or suggest two AC currents, so cannot disclose or suggest currents with a specified phase shift (**claim 44**) or different frequencies (**claims 45 and 58**).

Indeed, more generally, there is no suggestion in Bottomley that the sample could be a flowing fluid, as required by all claims.

For these reasons also, at least claims 44, 45, 48, 56, 58, 59, and 62 are deemed to be novel and non-obvious over Bottomley.

35 U.S.C. § 103:

Claims 49 and 51-53 were rejected as obvious over Bottomley in view of U.S. Patent No. 3,551,794 (Vander Heyden). The rejection is traversed.

Claims 49 and 51-53 are dependent from claim 43, and Vander Heyden is relied on only for the additional features of dependent claim 49. Claims 49 and 51-53 are therefore deemed to be novel and non-obvious over the combination of Vander Heyden and Bottomley for at least the same reasons as claim 43 is novel and non-obvious over Bottomley alone.

In addition, Vander Heyden does not show or suggest, and is not alleged to show or suggest, the features recited in at least claims 51-53. For these reasons also, claims 51-53 are deemed to be novel and non-obvious.

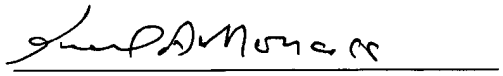
Conclusion:

In view of the foregoing, all of pending claims 43-45, 48-54, and 56-65, as now presented, are believed to be novel and non-obvious over the cited prior art. Reconsideration of the examiner's rejections and an early notice of allowance of claims 43-45, 48-54, and 56-65 are earnestly solicited.

If the examiner believes that direct communication with the applicant's representatives will be helpful, she is respectfully invited to contact Henry Blanco White (Reg. No. 47,350) at telephone no. 215-988-3301.

Respectfully submitted

MICHEL RIERA

BY: 

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